

What is claimed is:

1. An electronic device comprising:

5                   a primary-function circuit; and

                  a voltage regulator responsive to a stress-enable signal and operable to supply  
                  an output voltage signal to the primary-function circuit, the output voltage  
                  signal being at one of a first voltage level and second voltage level dependent  
10               upon the stress-enable signal,

                  wherein the primary function circuit and the voltage regulator are integrated in the  
                  electronic device.

2. An electronic device in accordance with claim 1, further comprising a voltage  
detector responsive to an external voltage signal and operable to produce the stress-  
enable signal, the stress-enable signal being indicative of whether or not the external  
voltage is within a predetermined range.

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3. An electronic device in accordance with claim 1, wherein the voltage regulator  
comprises a voltage divider having a variable resistance element.

4. An electronic device in accordance with claim 3, wherein the variable resistance

5 element of the voltage divider comprises a resistor coupled in parallel with a transistor, and wherein the gate of the transistor is controlled by the stress-enable signal.

5. An electronic device in accordance with claim 3, wherein the voltage regulator further comprises:

5 a reference voltage generator;

a first voltage follower coupled to the reference voltage generator and to a first position in the voltage divider and operable to control the voltage divider in a feedback loop.

6. An electronic device in accordance with claim 5, wherein the voltage regulator further comprises a second voltage follower coupled to a second position in the voltage divider and to the output voltage signal and operable to control the level of the output voltage signal in a feedback loop.

5 7. An electronic device in accordance with claim 6, further comprising an output stage having an output transistor operable to produce the output voltage signal, wherein the output from the second voltage follower is coupled to the gate of the output transistor.

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8. An electronic device in accordance with claim 7, wherein the output stage further comprises a capacitor, the output transistor and the capacitor being connected in series between a voltage supply and a ground.

9. An electronic device in accordance with claim 6, wherein at least one of the first and second voltage followers comprises a difference amplifier.

10. An electronic device in accordance with claim 9, wherein the difference amplifier includes a current mirror biasing circuit.

11. An electronic device in accordance with claim 9, wherein the difference amplifier includes current mirror loading.

12. An electronic device in accordance with claim 5, wherein the reference voltage generator comprises a bandgap voltage generator.

13. A method for testing an electronic device having an integrated voltage regulator operable to produce a regulated voltage signal, the method comprising:

receiving a stress-enable signal indicative of whether a stress-mode is to be  
invoked; and

if the stress-mode is to be invoked:

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controlling the level of the regulated voltage signal to a predetermined test level;

10 otherwise

controlling the level of the regulated voltage signal to a predetermined normal operating level.

14. A method in accordance with claim 13, wherein the electronic device includes a voltage detector, further comprising:

supplying an external voltage signal to the voltage detector;

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detecting the level of the external voltage signal; and

generating the stress-enable signal to invoke the stress-mode if the level of the external voltage signal is outside of a predetermined range.

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15. A method in accordance with claim 14, wherein the predetermined test level of the regulated voltage signal is higher than the predetermined normal operating level, thereby enabling the device to be stressed during testing.

16. A method in accordance with claim 13, wherein the voltage regulator incorporates a voltage divider having a variable resistance element, the method further comprising:

5                   supplying the stress-enable signal to the voltage divider; and

                  adjusting the resistance of the variable resistance element dependent upon the  
stress enable signal.

17. A method in accordance with claim 16, wherein adjusting the variable resistance  
element in the voltage divider dependent comprises:

                  supplying the stress-enable signal to the gate of a transistor, the transistor  
5                   being coupled in parallel with a resistor of the voltage divider.

18. A method in accordance with claim 15, wherein the voltage regulator  
incorporates a first voltage follower, the method further comprising:

                  supplying a first voltage signal from a first point in the voltage divider to a  
5                   first input of the first voltage follower;

                  supplying a reference voltage to a second input of the first voltage follower;  
and

10                   supplying the output of the first voltage follower to the voltage divider to  
thereby control the voltage at the first point in the voltage divider in a

feedback loop.

19. A method in accordance with claim 18, further comprising generating the reference voltage using a bandgap voltage generator.

20. A method in accordance with claim 16, wherein the voltage regulator incorporates a second voltage follower coupled to an output stage, the method further comprising:

5                   supplying a second voltage signal from a second point in the voltage divider to a first input of the second voltage follower;

                  supplying the regulated voltage signal to a second input of the second voltage follower; and

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                  supplying the output of the second voltage follower to the output stage to control the regulated voltage signal in a feedback loop.